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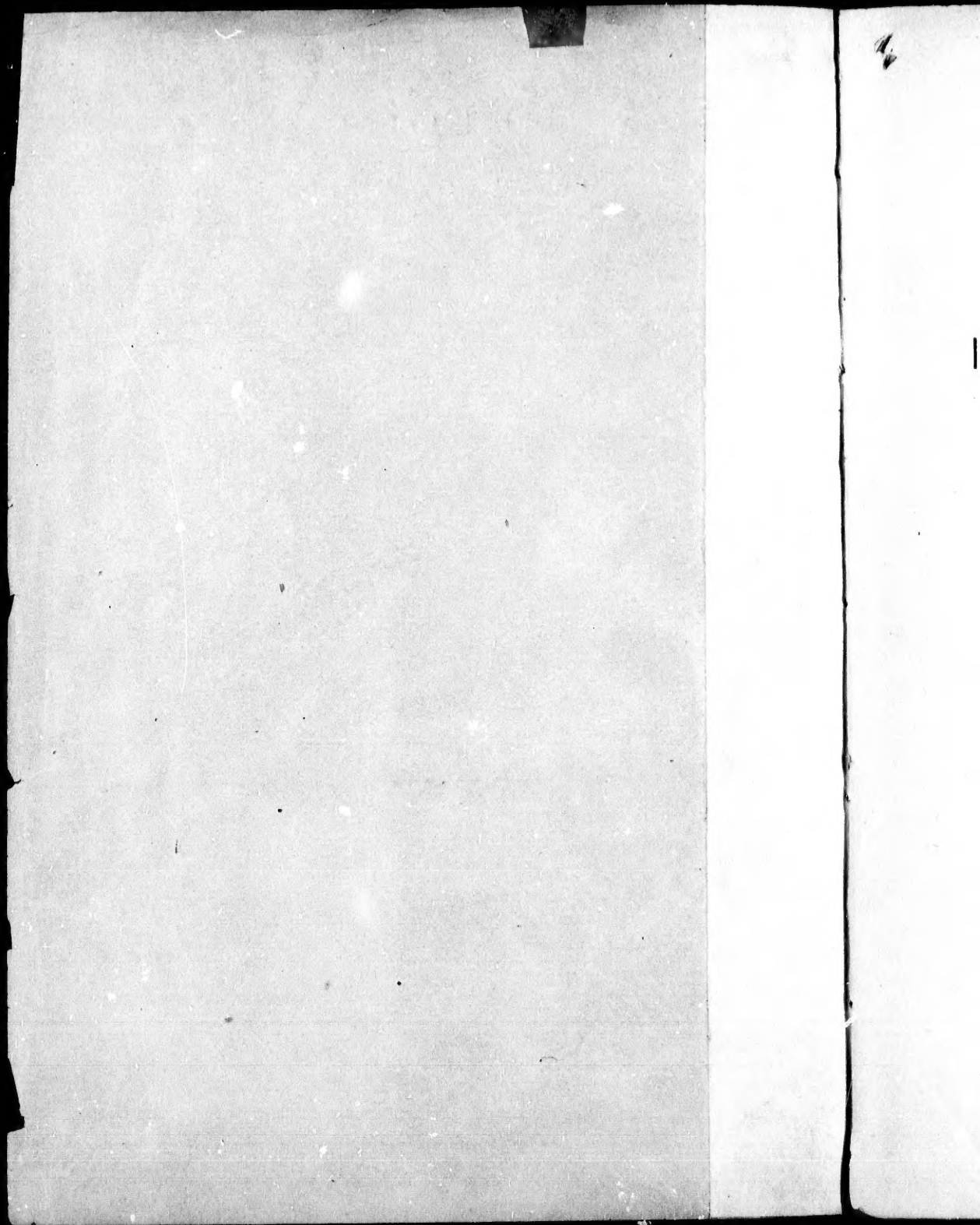
Business

REPORT

ON THE

Intercolonial Coal Company's Collieries,

PICTOU CO., N.S.



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REPORT

ON THE

INTERCOLONIAL COAL COMPANY'S
COLLIERIES,

PICTOU CO., N.S.



Montreal:

PRINTED BY BECKET BROS., 224 ST. JAMES ST.

1886.

Intercolonial Coal Mining Company.

DRUMMOND COLLIERY.

MONTREAL, 24th August, 1886.

To the Shareholders,

GENTLEMEN,

The Directors beg to submit the following report on the Collieries of the Company prepared by Edwin Gilpin, Jr. Esq., A.M., F.G.S., F.R. S.C., &c., &c., Government Inspector of Mines, Nova Scotia.

Your obedient servant,

H. A. BUDDEN,

Vice-President.

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HALIFAX, N. S., August 2nd, 1886.

H. A. BUDDEN, Esq.

Vice-President,

Intercolonial Coal Mining Co.

Sir,

The following remarks, will, I trust, serve to convey a general idea of the extent and capabilities of the operations of the Intercolonial Coal Mining Company of Pictou Co., Nova Scotia.

This Company holds from the Government of Nova Scotia the following properties :—

1. Bear Brook Area, One square mile.
2. Sutherland " "
3. Middle River " "

subject to a royalty of $7\frac{1}{2}$ cents on each ton (gross) sold.

On areas Nos. 2 and 3 exploratory work has shown coal; and they are considered valuable, but as mining operations have been conducted only on the first named area I will confine my remarks to it. On the Bear Brook property the following seams have been proved, and lie as follows in descending order :—

Main, or Acadia Seam,	18 feet.
Strata, (about)	160 "
Second Seam,	10 "
Strata, (about)	150 "
Third Seam,	6 "

There are other seams known on the property, but hitherto these have received most attention. For full information about these areas from a mining and geological standpoint reference may be made to the reports of the Geological Survey of Canada, which contain detailed surveys and reports on the Pictou Coal Field made by the late Sir William Logan, (Director of the Survey.)

The Main and Second Seams have been opened for mining purposes by your Company, and are believed by those acquainted with the Geology of the district to represent the westward extension of the Main and Cage pit seams of the Albion group, well known and valuable beds of coal.

On the Main Seam two working slopes have been driven in the coal from its crop 2610 feet to the dip. At intervals in this distance levels have been driven to the right and left and the systematic extraction of coal carried on. At present the preliminary work has been pushed so far that there are considerable bodies of solid coal and of available pillars in the upper levels, while the coal lying immediately above the lowest level is comparatively untouched, the levels in the lowest or 2600 feet level having been driven only about 1400 feet each way. A large supply of coal is thus ensured for several years without any further preparatory work. A short distance to the Eastward of these slopes another slope called the No. 4 was driven in the same seam some years ago, and has been worked at intervals to supplement the output of the other slopes.

The total thickness of this seam as given by Sir William Logan in the Report of the Geological Survey is 18 feet. The thickness as worked in the mine, varies from 10 to 14 feet, part of the top or bottom being left unworked according to the nature of the roof and of the lower part of the seam. The coal is worked on the bord and pillar system and presents no difficulties to the miner. It is not easy to give an exact estimate of the coal in this seam in the area under consideration but it may be estimated at not less than six millions of tons, within reach of the present equipment, and exclusive of the coal now won by the present workings.

No difficulty is experienced in handling the water made in this mine by three Cameron pumps (sizes 2, 3 and 4) which raise in the course of the year about 60,000 tons of water, an amount smaller in proportion to the tonnage of coal than in any other Provincial mine.

The surface plant embraces a pair of horizontal connected engines of about 150 horse power friction geared, hauling from the 1700 feet level. The haulage from the lowest lift to this point being performed by a compound condensing engine of 260 horse power, supplied with steam from the surface. There is also in the mine some distance to the east of the slopes a 35 horse power engine hauling from a part of the seam having a dip diverging from that of the main part of the workings, and delivering the coal to the main hauling engine.

The winding engine boiler battery which supplies steam to these three engines contains six boilers fully equipped and covered

with an iron boiler house. There is also a Guibal fan having a diameter of 20 feet, with blades 7 feet 6 inches long, with boilers, brick house, etc., for ventilating purposes. The heapstead is supplied with seven screens fitted with tips, etc., equal to the maximum output of the Colliery. The No. 4 slope has an independent hoisting equipment, and is connected with the main slope heapstead by a trestle work.

The second seam has been opened by a pit 250 feet deep, and the necessary connections made to a second or ventilating shaft. The main shaft is completely equipped for work with cages, slides, heapstead, screens, hoisting engine, etc. This seam has been already referred to as being 10 feet thick. In the present opening there are about 7 feet of workable coal, and I am informed that at other points along the crop the full thickness is considered workable. Owing to the decline in the coal trade no regular shipments of coal have been made from this mine, but it forms a most important reserve as it opens a seam extending under about 500 acres of the area.

There are about 820 acres of freehold land about the pits owned by the Company, on which have been erected houses for the manager and the overmen, and 69 workmen's houses. Shops are also provided for carpenter, blacksmith and machinist work, and contain an equipment which is fully adequate to the repairs of all machinery and the construction of coal waggons and other colliery appliances, the motive power being furnished by an engine in the machine shop having a 9 inch cylinder and a 15 inch stroke. There are also the usual lamp, pick, engine, weigh and office houses, etc.

The Mine is connected by a branch line (about $2\frac{3}{4}$ miles long) with the Pictou Branch of the Intercolonial (Government) Railway, which is connected with the railway system of the continent; and by another line about 7 miles long, with a wharf at Granton on the Middle River of Pictou. This wharf is 760 ft. long, and has a depth of water sufficient for loading the largest steamers entering Pictou Harbor. It is equipped with shoots, cranes, etc., to the full capacity of the Colliery. These lines and the wharf are the property of the Company, and are substantially constructed and equipped with 2 locomotives and 74 cars.

The annual production of this Colliery has varied up to 150,000 tons. The main or Nos. 1 and 2 Slopes can yield as a maximum

daily output about 700 tons, and the No. 4 Slope about 250 tons. The "second" seam workings can be readily put in order for a daily output of about 400 tons.

QUALITY OF THE COAL.

The coal of this Mine may be classed as a bituminous and coking coal. It is used for steam and domestic purposes and for coke and iron making. The coal is well adapted for the first named purpose, as it gives a good flame without much smoke and makes a lasting fire. Numerous certificates have testified to its adaptability for steam raising in marine as well as in locomotive and stationary boilers; and the report of the Canadian Geological Survey (already referred to) gives details of several satisfactory tests made under locomotive and marine boilers by the officers of the Survey. It has been largely used on the Government and other railways, and many steamboat companies prefer it to any other Provincial coal for their purposes. For a number of years the Steel Company of Canada have regularly purchased large amounts of the slack coal from this Mine which they have coked at their furnaces and found to yield a coke strong, cellular and resistant, and well adapted for iron ore smelting and for foundry purposes. This Company use large coal from the Intercolonial Mine in their puddling furnaces, and also, I am informed, in their blast furnaces mixed with coke.

The following analysis by Sir J. William Dawson will show the quality of the coal from the main seam workings:—

"ORDINARY COAL OF MINE."

Volatile Matter,	28.0
Fixed Carbon,	64.0
Ashes,	8.0
	<hr/>
	100.00

"The ashes are of a grayish color. The coal is remarkably free from sulphur."

The report of the Geological Survey (already referred to) gives analysis and details of the coal confirmatory of the above analysis.

The coal from the second seam is of a similar nature to that from the main seam.

The colliery is favourably situated for the coal trade business being about 7 miles from Pictou Harbor, and about $2\frac{3}{4}$ miles from the Government Railway. The partly constructed Short Line Railway, connecting New Glasgow and the Cape Breton Railway with the Government Railway at Oxford, and affording a short road to Quebec, Montreal, etc., will pass within a few yards of the Colliery.

The favourable position of the Mine, the quality of the coal, and the extent of freehold of the Colliery offer a good chance for the establishment of iron works in connection with the well known iron ore deposits of the East River of Pictou. I have no doubt that a good site and an abundant water supply can be had on the property close to the slopes. I enclose a paper on the iron ores of Pictou County, lately read by me before the American Institute of Mining Engineers, which shows the relation of the properties of the Intercolonial Company to the various railways, the Harbor of Pictou and the iron ore deposits of the district.

I have the honor to be, Sir,

Yours truly,

EDWIN GILPIN, JR.